Native Prairie

STEWARDSHIP

PROTECTING AN ECOSYSTEM

FACT SHEET

What is native prairie?

The great glacier moved like a giant's hand over the face of North America and then retreated. As the glacial melt dried, the southern forests collapsed for lack of moisture and our northern prairies began a slow and complex evolution. This was no sudden happening. The prairie ecosystem evolved over thousands of years as a diverse, inter-dependent tapestry of plant and animal life.

Plant species adapted to the extremes of prairie weather and moisture conditions. Hardy grasses survived and flourished, influenced by sweeping prairie fires, drought and intensive periods of grazing as herds of animals moved across the plains.

In some areas of the Great Central Plains, where the soil will not support field crops, native prairie is still grazed, forming the heart of the cattle country. In intensely farmed south central Saskatchewan, only small remnants of native prairie still exist. These tiny pockets of our heritage hold some of the future potential for our society.

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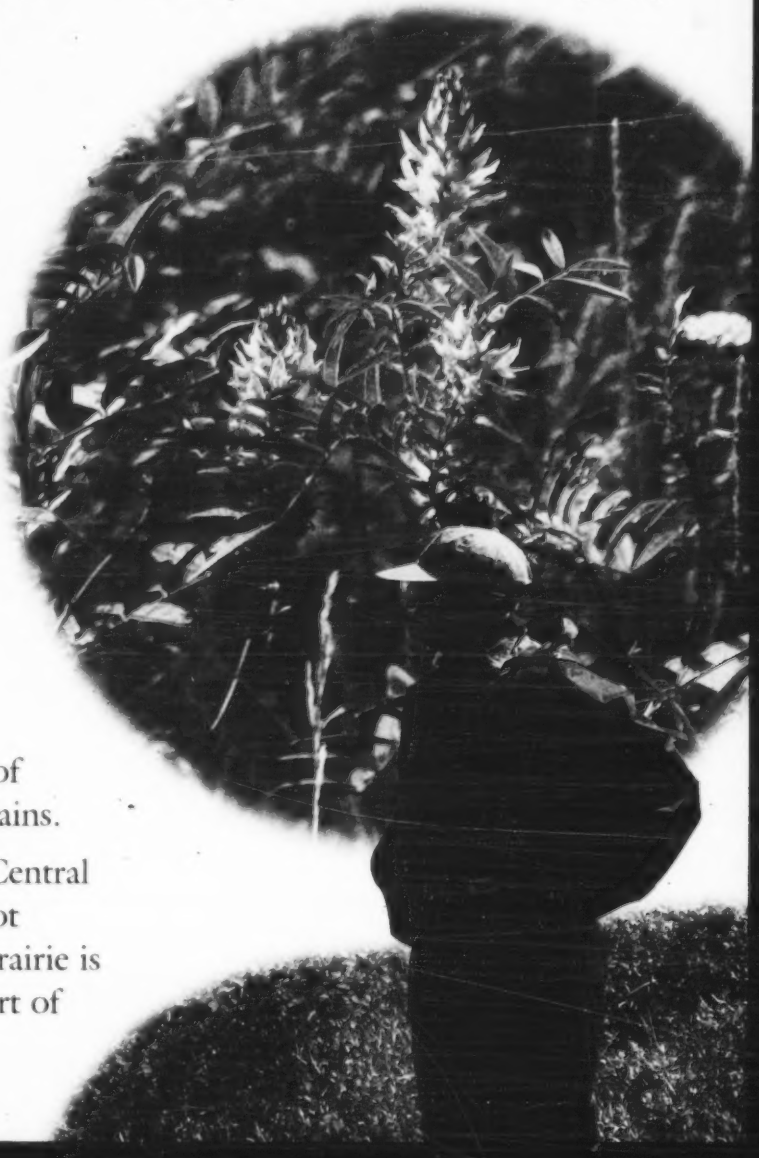

Native prairie ...

Important to agriculture

Across our land, 80 per cent of the original prairie has been cultivated. In Saskatchewan, where 16 million acres of native grassland remains, it is almost entirely in the arid/semi-arid south-west area of the province. The native plant species which evolved there are not the same as those that thrived in different soil and weather zones.

In areas well suited to agriculture, such as in the Regina area, less than .03 per cent of native prairie remains. Some areas are more threatened than others. That there is grassland remaining in the semi-arid Val Marie region, does not help the plants and animals losing their habitat on the Regina heavy clay soils.

Within intensively farmed areas, the remnants of native prairie that still exist are themselves threatened. Settlement has changed conditions on the prairies. No longer the sweeping prairie fires which burned away encroaching shrubs, spurred new grass growth and seed germination. In some areas there are neither wild animals nor cattle to crop the grass and prevent buildup of plant litter. Cultivated species and non-native weeds threaten slower-growing native species. But these dangers can be controlled so that native prairie remnants can flourish.

Important for wildlife habitat

In the liquid trill of the meadowlark we hear the importance of native prairie to our wildlife. The grasslands are home to hundreds of species from gophers to butterflies, coyotes to burrowing owls. One third of Canada's endangered plants and wildlife are grassland species.

Important for soil conservation

With proper range management, native grassland provides ideal cattle pasture. Native plants survive in our extreme weather conditions. Grass cover holds snow and rain so that water seeps downward to underground aquifers, preventing erosion.

Important for our cultural heritage

Medicine wheels, Indian graves and other archaeological sites are found in native prairie. Roots in this soil are roots with our past. And if our archaeological heritage is important, consider where we would be today if some careless past society had wiped out the wild ancestors of wheat, corn and rice. Future plant breeding and biotechnical development depends on strong native genetic stock.

Native prairie stewardship goals

Stewardship is as old as a biblical parable and as new as today's answer to the native prairie crisis. The first stewardship goal is to preserve samples of the few remnants of native prairie that still exist.

The next step is to maintain or restore the ecological integrity of these remnants, ensuring that each is a healthy, functioning ecosystem supporting the plants, animals and birds that have evolved there and call it home. Each remnant will need different maintenance according to its own condition and the surrounding hazards. A healthy ecosystem will recover and benefit from the natural disturbances of drought, fire and grazing. To achieve ecosystem balance for each grassland site takes care and management.

MANAGING FOR STEWARDSHIP

Fire

Early pioneers lived with the fear of fire, but the very land they lived on owed part of its richness to the effects of periodic prairie fires sweeping across the plains. Today, prairie fires are relegated to the mythology of pioneer life, but the absence of flames distorts the eco-balance fire once helped to create.

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Fire can help control woody growth such as aspen and willow which will otherwise encroach on grassland. Some seed species germinate better after a fire and the removal of plant litter encourages new growth. Some studies show that actual soil composition changes following a fire with resultant potassium and phosphorus solubility producing a fertilizing effect.

But burning is a complex issue. A successful burn depends on moisture conditions before and after the burn, fuel load, season of burn, the grass and soil types and many other factors. The key to successful controlled burning is to know exactly what the burn should accomplish, then get experienced advice and assistance to achieve your goals.

Fire is not the single solution to native prairie maintenance, but controlled burning is one management technique that can help preserve a healthy prairie ecosystem.

Grazing

As the grasslands of the Great Central Plain flourished, so too did the herds of deer, elk, buffalo and other grazing animals. Herds were nomadic, cropping the best grass, then moving on. Plant-feeding insects came and went in cycles. Grasses evolved under alternating periods of grazing and rest.

Native prairie, even the smallest remnants, are dynamic, evolving ecosystems. Native grassland will not be preserved by leaving it vacant. Native grasses can be crowded out by shrubs and weeds if they are not kept in check by grazing and fire. Excessive litter build-up can change soil conditions, inhibit new plant growth and favour shade-tolerant species. Carefully managed livestock grazing is both economically sound for the landowner and ecologically beneficial for the range.

Hand weeding and spot herbicide application

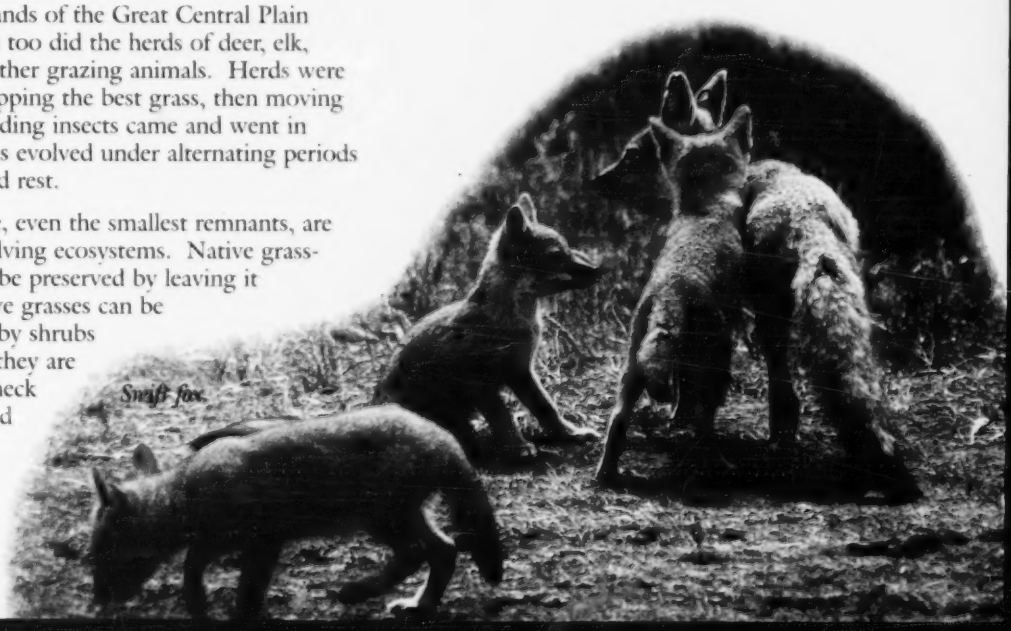
Without the blaze of prairie fires, and animals which browse on tender new shrubs, there is little to stop the encroachment of woody growth on native prairie. Small remnants surrounded on all sides by farming are threatened by non-native weeds such as leafy spurge, cheat grass and Canada thistle which arrive along with agricultural plant varieties.

Some species used in agriculture and landscaping (i.e. smooth brome, crested wheat grass, Kentucky blue grass) are invasive and threaten native prairie sites.

Certain tenacious weeds and brush may not be removed even with fire and grazing. In these situations, pulling or digging the invasive plants may be best.

Spot herbicide application can also be used to eradicate resistant patches of weeds such as leafy spurge, which is not controlled by fire, or encroaching brush which is difficult to control manually.

Herbicides can be used to protect native plants. Chemical dealers or your extension agrologist can advise on which herbicide to use for a specific purpose. Recommendations for problem plant eradication and herbicide selection is in the Saskatchewan Agriculture and Food publication, *Weed Control in Field and Forage Crops*.



Swift fox

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There are also disadvantages to using herbicides:

- desirable plants may be eliminated;
- herbicides are a relatively expensive control measure;
- careless use of herbicide or wind-drift can damage nearby vegetation and contaminate the environment; and
- herbicide residues can be an environmental risk for extended periods of time.

Seeding native species

With every new plant variety developed for fields and gardens in Western Canada, come new insect pests, fungus threats and weeds that travel with seed and equipment from other regions and other countries. This constant challenge to farmers and gardeners is no less a challenge to the health of native prairie grasslands.

If remnant prairie is threatened by invasive species, seeding native grasses around it can wrap it in a protective border. Where there are several small remnants in close proximity, seeding native grasses between these blocks will establish a larger area of native prairie which is more likely to sustain itself. Either of these methods of seeding native grasses extends the grazing potential of native grassland and protects it against encroaching domestic species.

If you are considering border sewing with native seed, be sure to consult with someone who has experience in handling native seed. In order to germinate, most native seed must go through a conditioning period where it is kept cold and damp, similar to the conditions it would experience as it lay on the ground through a prairie winter. Seeds of legumes must have the seed coat broken before they will germinate. Discussing your plans with an experienced native seed handler is a good way to ensure success.

For further information on land management techniques including grazing systems, controlled burns, seeding with native seed, and mowing and haying operations, as well as native seed suppliers, call:

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